

First record of Purple Swamphen *Porphyrio porphyrio* in the Federated States of Micronesia, with remarks on vagrants and recently established populations of rallids in Micronesia

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SUMMARY.—We report the first record of Purple Swamphen *Porphyrio porphyrio* in the Federated States of Micronesia (FSM) based on a specimen captured and photographed in Yap in 2004. In coloration and pattern it resembled the *melanotus* subspecies group from the southern part of the species' range, and it probably reached Yap from the Australia / New Guinea region or Palau. However, certain identification as to subspecies and provenance is not possible. Records of other vagrants and recent colonists of rallids in Micronesia are reviewed and include the first sightings of Common Moorhen *Gallinula chloropus* in Chuuk State, FSM.

Purple Swamphen *Porphyrio porphyrio* ranges from Africa and southern Europe east to the Philippines and south to Australia, New Guinea, New Zealand, Palau, and the islands of south-west Oceania (Taylor 1996). It is also introduced in southern Florida, USA (Pranty *et al.* 2000, Johnson & McGarrity 2009). We report the first record of a Purple Swamphen in the Federated States of Micronesia (FSM) from a bird photographed on the main island of Yap in 2004 (Fig. 1). In reply to a query from DWB regarding unusual birds encountered by quarantine inspectors in the FSM, JW recalled seeing a photograph of a large bluish-coloured bird taken on Yap several years earlier, which had never been identified. JW contacted A. Fagolur of FSM Quarantine, Yap Station, who furnished a copy of the photograph and stated (pers. comm.) that the bird was brought to the Yap State FSM Quarantine Office by someone from the village of Yinuf, near Yap High School in July 2004. We later received additional photographs taken by M. Falanruw. SF interviewed those people directly involved in the capture and subsequent handling of the specimen. Brothers, D Gilmoon and S. Guwaathag first saw the bird in a grassy area near their house and caught it when it ran into a taro patch; it was unable or did not attempt to fly. The bird was photographed by staff from the Yap State Division of Agriculture and Forestry and was left in the possession of the brothers. It died c.3 days later and was buried. The partially decomposed carcass was later exhumed at the request of M. Falanruw (Yap Institute of Natural Science) and stored in a freezer. The specimen remains in storage at the time of writing pending sampling for DNA and preparation as a skeleton (M. Falanruw & H. D. Pratt pers. comm.). The bird presumably reached the island by natural dispersal, as the species is unknown in captivity in Yap. Although *P. porphyrio* does not regularly migrate long distances, it may move seasonally and locally in response to habitat changes (Taylor 1996). The species is highly dispersive (Steadman 2006) and has been recorded moving up to 1,000 km (Grussu 1999).

We sent the Division of Agriculture photograph of the swamphen on Yap to personnel of the American Museum of Natural History, New York (AMNH), Auckland Museum (AIM), Australian Museum, Sydney (AMS), Museum für Naturkunde, Berlin (ZMB), Museum of Comparative Zoology, Cambridge, MA (MCZ), Natural History Museum, Tring (NHM), and National Museum of Natural History, Smithsonian Institution, Washington DC (USNM), for comparison with various subspecies of *P. porphyrio*. We also

compared it with descriptions in Taylor & van Perlo (1998), and with photographs of living *P. p. pelewensis* taken in Palau. Species and subspecies limits within the *P. porphyrio* complex are variously interpreted by different authors, as reviewed by Sangster (1998). We follow Taylor (1996) and Taylor & van Perlo (1998) in recognising 13 subspecies within six subspecies groups. Five of the six groups occur in the north and west of the species' range (Africa and Eurasia, to the Philippines); the Yap bird does not match well in coloration and pattern with any of those groups and most of these subspecies are unlikely on

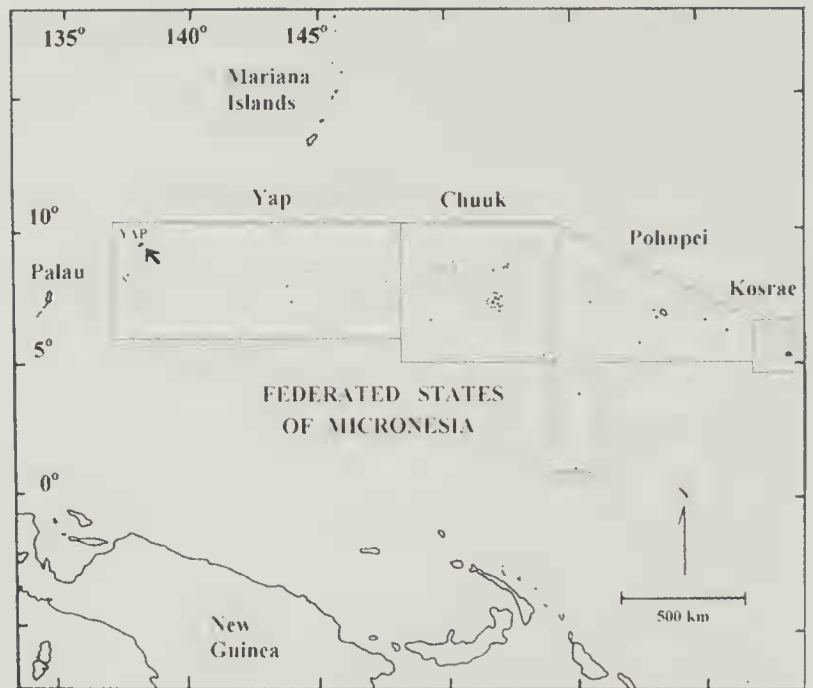


Figure 1. Location of Yap and the Federated States of Micronesia in the tropical western Pacific Ocean.



Figure 2. Purple Swamphen *Porphyrio porphyrio* captured in Yap, Federated States of Micronesia, July 2004 (M. Falanruw)

geographic grounds. That closest to Yap geographically, *P. p. pulverulentus*, which is endemic to the Philippines, is much paler and dusty bluish grey. The south-east of the species' range is occupied by five subspecies that comprise the *melanotus* group. In coloration and pattern the bird from Yap appears to resemble many examples of *P. p. melanotus* from Australasia. It also resembles some photographs of *P. p. pelewensis* from Palau, c.400 km to the south-west, and geographically the population closest to Yap (Fig. 2). But specimens of birds from Palau appear darker, with nearly uniform ventral regions, and tend to lack the distinctly pale blue breast evident in the bird from Yap (P. Capainolo & S. Frahnert pers. comm., DWB pers. obs.). In sending the photograph to several curators for examination, we found that the bird also matched some examples of *P. p. samoensis* and *P. p. melanopterus*, at least among the available material (W. Boles, M. LeCroy & P. Capainolo pers. comm.). We are confident that the bird from Yap is an example of the *melanotus* group, possibly from Palau or the Australia-New Guinea region, based on geographic proximity and overall appearance, but in view of the variability within subspecies in the *melanotus* group (Taylor & van Perlo 1998) and the broad overlap in specimens (W. Boles pers. comm.), certain identification of the Yap specimen as to subspecies and assessment of its origin based on the available photograph is not possible. There is no indication that the swamphen photographed on Yap was anything other than an accidental visitor or stray; it remains the only record.

Rallids in Micronesia: vagrants and recent colonists

Rallidae have a cosmopolitan distribution, being absent only from polar regions. A tendency to wander and excellent over-water dispersal has resulted in their successfully colonising some of the most remote oceanic islands (Olson 1973, 1999). Many of the early colonists rapidly evolved into flightless insular endemics, most of which have since been extirpated through human exploitation, habitat modification and introduction of predators (Steadman 2006). Some contemporary volant species are renowned for remarkable incidents of long-distance vagrancy (Livezey 1998), with many examples given by Remsen & Parker (1990).

In the most recent checklist of the birds of Micronesia, Wiles (2005) recorded 11 living or recently extinct species of rallids, four of them vagrants to one or more islands, and including birds that may have dispersed from islands within the region as well as those from outside it: Red-legged Crake *Rallina fasciata* and Rufous-tailed Bush-hen *Amaurornis moluccanus* in Palau, White-browed Crake *Poliolimnas cinereus* in the Marshall Islands, and Eurasian Coot *Fulica atrata* on Guam and in the Commonwealth of the Northern Mariana Islands (CNMI). The dates for these vagrants range from as early as 1896 for one of the two records of *F. atrata* on Guam (Baker 1951) to 2003 for the other (Wiles *et al.* 2005). Pratt *et al.* (2010) recently added the first record of *F. atrata* in the FSM based on a bird on the main island of Yap in February 2003. A particularly noteworthy example of apparent long-distance vagrancy involving a rallid in Micronesia is a Watercock *Gallinula cinerea* photographed on Kosrae, FSM, in May 2010, c.4,000 km from the nearest breeding population in the Philippines and at least 3,000 km from the nearest known migrants or extralimital records in southern Japan (Buden & McKinlay 2010).

Two rallids have recently established breeding populations in Micronesia, probably within the past 30–40 years. Common Moorhen *Gallinula chloropus* probably became established on the main island of Yap during the mid to late 1980s (Wiles *et al.* 2000, 2004), and on Rota, CNMI, during the early to mid 1990s when artificial ponds at a recently constructed golf resort provided the only suitable habitat (Worthington 1998). Moorhens had been unrecorded on Rota in historical times but bones from archaeological digs indicate they occurred prehistorically, apparently when natural wetlands were presumably present

(Stinson *et al.* 1991, Steadman 1992). The recently established population on Rota probably originated from within the Marianas, whereas that on Yap could have originated from any one of several sources, including the Marianas, Palau or South-East Asia. Four *G. chloropus* observed in a marsh adjacent to the commercial district on Weno (= Moen) Island, Chuuk, by M. Beaman on 19 December 2005 (D. A. Scott pers. comm.), two observed by D. A. Scott *et al.* on 8 December 2008, three on 16 January 2010 (Hornbuckle 2010; J. Hornbuckle pers. comm.), a pair photographed by G. McKinlay (pers. comm.) on 14 May 2010, and five, including two juveniles, seen by D. A. Scott *et al.* (pers. comm.) on 6 December 2010, all at the same marsh on Weno, are the first confirmed records in Chuuk State, FSM. However, several Chuuk islanders shown photographs of this species during interviews by DWB in July 2010 claimed to have seen it on Weno and on other islands in Chuuk Lagoon, including Tol and Parem, and as long ago as 20–30 years previously, when, they said, the birds were more numerous. An approximately equal number of people queried were unfamiliar with the species. The status of *G. chloropus* in Chuuk merits further investigation; the records may pertain to residents or migrants, or both.

In another example of colonisation of Micronesia in recent decades, Buden & Retogral (2010) reported the range expansion of White-breasted Waterhen *Amaurornis phoenicurus* into the region based on the recent (2009) discovery of a breeding population on Woleai Atoll (and reports by islanders of breeding or presumed breeding on three adjacent atolls) in the Outer Islands of Yap, as well as the first record in Palau, based on a bird photographed by M. Vereen during late October–early November 2009. Woleai islanders first noticed the birds on their atoll around the 1970s, apparently near the start of a period of range expansion in the species that has continued to the present (Buden & Retogral 2010). The islanders reported that the birds are usually encountered in taro patches, which are wet swampy areas where one or more species of aroid are cultivated as subsistence crops.

The rallids recorded as vagrants or as recent colonists in Micronesia are species that are migratory or dispersive in at least part of their ranges, and all inhabit marshes or other wetlands. Suitability of such habitats for rallids may change seasonally or be impacted irregularly by droughts, floods and degradation by human activities. Remsen & Parker (1990) remarked that even rails and gallinules thought to be sedentary can appear at unpredictable times and places dictated by changes in their habitat. Although many rallids are capable of sustained flight, they tend to be weak flyers that are likely to be driven off-course by strong winds, presumably accounting for the many examples of vagrants or accidental visitors.

To what extent changes in habitat and movements of birds in different parts of their range account for the increased incidence of rallids in Micronesia is uncertain. However, the increase in knowledgeable observers visiting the islands may be a major contributing factor. Records of Watercock on Kosrae, the two separate sightings of moorhens in Chuuk, White-breasted Waterhen in Palau, and European Coot in Yap were contributed in part by avocational birders. Given the still somewhat sporadic observations on many islands throughout Micronesia, some of them seldom if at all visited, the actual number of vagrants among rallids and other birds is probably much higher than reported.

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